

INTERNATIONAL SEARCH REPORT

International Application No

PCT/JP2005/005616

A. CLASSIFICATION OF SUBJECT MATTER
 IPC 7 F02D41/20 F02D41/40

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
 IPC 7 F02D

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the International search (name of data base and, where practical, search terms used)

EPO-Internal, PAJ, WPI Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 5 960 627 A (KRAMPE ET AL) 5 October 1999 (1999-10-05) figures 2,5a column 3, line 45 - line 51 column 5, line 33 - line 40 -----	1-3
X	US 5 934 258 A (WATANABE ET AL) 10 August 1999 (1999-08-10) column 4, lines 18-23 column 9, line 17 - column 10, line 35 -----	1-3
X	US 2004/030488 A1 (MOESSINGER JUERGEN ET AL) 12 February 2004 (2004-02-12) figure 3 paragraphs '0025! - '0027!; figure 3 ----- -/--	1-3

☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

* Special categories of cited documents:

- *A* document defining the general state of the art which is not considered to be of particular relevance
- *E* earlier document but published on or after the international filing date
- *L* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- *O* document referring to an oral disclosure, use, exhibition or other means
- *P* document published prior to the international filing date but later than the priority date claimed

T later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

X document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

Y document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

& document member of the same patent family

Date of the actual completion of the international search

1 June 2005

Date of mailing of the international search report

13/06/2005

Name and mailing address of the ISA
 European Patent Office, P.B. 5818 Patentlaan 2
 NL - 2280 HV Rijswijk
 Tel (+31-70) 340-2040, Tx. 31 651 epo nl,
 Fax (+31-70) 340-3016

Authorized officer

Röttger, K

INTERNATIONAL SEARCH REPORT

International Application No

PCT/JP2005/005616

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 5 692 375 A (NOVAK ET AL) 2 December 1997 (1997-12-02) column 3, lines 20-22; figure 1 -----	3
A	US 4 116 172 A (LOHR ET AL) 26 September 1978 (1978-09-26) column 1, lines 38-44; figure 1 -----	3

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/JP2005/005616

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
US 5960627	A	05-10-1999	WO 9711269 A1 DE 19636507 A1 DE 59608369 D1 EP 0793776 A1 JP 10510027 T	27-03-1997 27-03-1997 17-01-2002 10-09-1997 29-09-1998
US 5934258	A	10-08-1999	JP 10288078 A DE 19803414 A1	27-10-1998 03-12-1998
US 2004030488	A1	12-02-2004	DE 10041448 A1 CA 2419184 A1 WO 0216746 A1 EP 1313936 A1 JP 2004507643 T MX PA03001579 A	07-03-2002 28-02-2002 28-02-2002 28-05-2003 11-03-2004 29-01-2004
US 5692375	A	02-12-1997	NONE	
US 4116172	A	26-09-1978	DE 2525769 A1 CH 613750 A5 DD 124929 A1 FR 2314359 A1 GB 1521817 A HU 176821 B IT 1060663 B JP 1089266 C JP 51151416 A JP 56033584 B RO 77885 A1 SE 435643 B SE 7606607 A SU 984414 A3 TR 19457 A	16-12-1976 15-10-1979 23-03-1977 07-01-1977 16-08-1978 28-05-1981 20-08-1982 23-03-1982 25-12-1976 04-08-1981 25-12-1981 08-10-1984 11-12-1976 23-12-1982 01-05-1979